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Biotechnology Notes

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Biotechnology Notes, a compilation of agency activities, news events, and upcoming meetings, is prepared for members of the U.S. Department of Agriculture's (USDA) Committee on Biotechnology in Agriculture (CBA) by USDA's Office of Agricultural Biotechnology (OAB).

INSIDE USDA

PUBLIC INVITED TO AQUACULTURE MEETING

USDA's working group on aquatic biotechnology and environmental safety will meet October 15, 1992 to draw up scientific criteria for performance standards for conducting research in contained facilities (hatcheries, ponds, raceways) and to plan a workshop to review the performance standards.

The working group reports to the Agricultural Biotechnology Research Advisory Committee (ABRAC), USDA's scientific advisory group for biotechnology research.

The meeting will take place at 170 Hubert H. Humphrey Center, 301 19th Avenue South, University of Minnesota, Minneapolis, MN from 9 a.m. to about 4 p.m. The public is invited to attend and may participate as time and space permit. For more details, call Maryln Cordle, Office of Agricultural Biotechnology (OAB), USDA, at 703-235-1510; Fax: 703-235-4429.

APHIS SEEKING PUBLIC COMMENTS

USDA's Animal and Plant Health Inspection Service (APHIS) is proposing to de-regulate ZW-20 virus resistant squash and has asked the public to submit any comments by October 19. The APHIS action is based on a petition from the Upjohn Company saying data show the squash do not pose a risk to plants or to the environment. For more details see the *Federal Register* notice dated September 4, Vol. 57, No. 173 or call Michael Lidsky at 301-436-7601.

USING SCIENCE TO TACKLE SALMON DISEASES

Fourteen U.S. and 26 Irish scientists met in Cork, Ireland September 14-17 at a workshop entitled "Biotechnological Approaches

to Culture and the Diseases of Fish and Shellfish." Among the topics discussed were salmon and abalone growth hormone genes, genes expressed as indicators of smoltification, transgenic fish and shellfish, protozoan and viral diseases of fish, vaccines, and probes for the detection of these disease agents. The fish experts presented 37 papers and developed collaborative research proposals.

Salmonid fish species are subject to a number of pancreatic and kidney diseases, septicemia, and fungal infections. The U.S. and Irish researchers hope that by pooling their technological know-how, new insights will be gained in diagnosing, immunizing, and treating fish diseases.

The workshop was sponsored by USDA, the National Science Foundation, the Department of the Interior, the Department of Commerce, the University of Maryland, and BioResearch Ireland. For more details, call John L. Fryer or Jo-Ann Leong at Oregon State University, at 503-737-4441; Fax: 503-737-0496.

RICE EXPERTS MEET IN THAILAND

More than 50 experts in rice biotechnology, breeding, and other agronomic practices met in Choburi, Thailand, September 1-3. "The International Consultation on Rice Biosafety" was sponsored by APHIS' Biotechnology, Biologics, and Environmental Protection Division (BBEP) and by the Rockefeller Foundation. Participants discussed the biosafety and environmental safety concerns that need to be evaluated when developing rice through biotechnology in areas of the origin of rice biodiversity. For more information about the meeting, please call either S. Shantharam or V. Giddings, APHIS/BBEP, at 301-436-7612.

NEWS AROUND THE NATION (AND THE WORLD)

BANKING ON SEEDS

Near Cali, Colombia scientists are collecting, preserving, and distributing a treasure trove of more than 52,000 varieties of cassava and beans. The seed bank is operated by Masaru Iwanaga, head of the genetic resources unit of the International Center for Tropical Agriculture (CIAT). "Seeds in the bank carry genes that allow the plants to resist disease and insect attacks without pesticides or to adapt to drought or salty soils," said Iwanaga. "Some of the seeds in the bank are the world's only remaining samples."

The collection was started in the 1970's to rescue seeds of wild species. Today, CIAT characterizes and multiplies wild, domesticated, and modern germplasm, and distributes seeds on request to national agricultural research systems worldwide. During the past 17 years, more than 100,000 samples of beans, cassava, and tropical pastures have been distributed to about 80 countries.

To learn more about the seed bank, call Iwanaga in Cali, Colombia at 57-23-675050; Fax: 57-23-647243; Telex: 05769.

UNIVERSITY ADMINISTRATORS QUERIED ABOUT BIOTECH

One hundred forty-two land-grant university research administrators were recently surveyed about agricultural biotechnology, and the results have been published in the *Journal of Applied Communications*, Vol. 76, No. 1. Of the 86 who replied to the questionnaire, most agreed that farmers must prepare for a high-tech future and they will have to use biotech products. They said benefits far outweigh possible risks and to lead in science, land-grant universities must become increasingly involved in biotech research. There was also strong agreement to have university scientists work closely with commercial biotech firms.

FDA REOPENS COMMENT PERIOD

On September 15 the Food and Drug Administration (FDA) reopened the public comment period for its "Policy on Foods Derived from New Plant Varieties". The new comment period closes on October 15. According to James Maryanski, FDA's Biotechnology Coordinator at the Center for Food Safety and Applied Nutrition, the agency has received about 2,700 comments. About 1,200 of these have been reviewed. Most of the comments thus far (95%) have been from consumers who say they oppose the policy. Many have asked that the agency require labeling of genetically engineered food products and most want the products tested for safety. Some are concerned about allergic reactions. Comments from academia/industry have been quite supportive of the policy. Maryanski said FDA will continue to review the comments to see if there are any issues which require further work. For more details, call James Maryanski at 202-205-4359.

NEW REPORT ON PUBLIC AWARENESS

The July issue of *EBIS*, a journal of the Commission of the European Communities, announces the release of a new report entitled "Biotechnology in Public: A Review of Recent Research". The report is based on a conference held in November 1991 and includes

sections on public awareness, risk communication, and the media. The report is available from Dillons at the Science Museum, Exhibition Road, London SW7 2DD. The Fax number is 44-71-9388118.

DNA MARKERS MAY LEAD TO DEMISE OF AFRICAN CATTLE DISEASE

Scientists around the world have launched a bovine genome project to breed disease-resistant cattle for farmers in sub-Saharan Africa. There, trypanosomiasis, a disease spread by the tsetse fly, each years kills millions of cattle, causing enormous food and economic losses. If scientists can identify the genetic markers in herds that are resistant to the disease, then breeders can use those markers in a simple genetic test to select the animals that are likely to carry the genes for resistance.

The breakthrough scientists have been looking for came recently in research on disease-resistant plant genes using random amplified polymorphic DNA (RAPD) markers. By themselves, RAPDs are difficult to work with because there are so many pieces of DNA associated with each marker sample. However, it is hoped that by pooling and analyzing all the DNA from the most resistant cattle in one test, and all the DNA from the least resistant cattle in another, the markers linked to trypanosomiasis resistance will stand out.

For more details about the research, write to Alan Teale, International Laboratory for Research on Animal Disease, P.O. Box 30709, Nairobi, Kenya.

IN CASE YOU WEREN'T THERE

■ President Bush addressed more than 400 small business owners at a National Technology Initiative conference on biotechnology and advanced materials in Chicago, IL September 25. He said a successful strategy for winning economic competition requires more than research and development: "It is necessary to move ideas and technology from the laboratory to the marketplace." Bush encouraged more partnerships and said next year's budget will see an increase for advanced manufacturing processes. He said more flexibility is needed to move robotics and other systems through the pipeline and that Government will help with these technological leaps. Bush's address ended with the signing of three new CRADA's (cooperative research and development agreements) between Con Edison and Argonne Laboratories, IBM and the Department of Energy, and the Department of Commerce and General Motors.

Marti Asner from USDA's OAB and Bruce Kinsel, Agricultural Research Service, staffed the USDA exhibits, passed out informational materials, and responded to questions about the Department's research and technology transfer programs.

■ "Patenting Life Forms: Of Mice, Women, and Men" was the title of two presentations delivered September 21 on Capitol Hill by attorneys Patrea Pabst (Kilpatrick and Cody, Atlanta, GA) and Andrew Kimbrell (Foundation on Economic Trends, Washington, DC). Pabst favored patenting of genetically engineered organisms because of the medical needs of critically ill patients and the economic needs of companies to recoup their investments. Kimbrell was opposed on the grounds that exclusive ownership would restrict benefits and impede scientific research. He emphasized environmental and ethical uncertainties and compared current biotechnology to the early days of chemical and nuclear technology.

■ The Agricultural Research Institute held its 41st annual meeting in McLean, VA, September. 13-19. The general theme was dynamics and performance of the U.S. agricultural research system. David MacKenzie, USDA/Cooperative State Research Service, chaired a panel discussion on current issues in biotechnology. Panelists included Allan Goldhammer of the Industrial Biotechnology Association; Susanne Huttner, University of California; and John Payne, USDA/APHIS/BBEP. Huttner questioned the scientific basis of APHIS' system of issuing permits for field tests of transgenic plants. Payne explained the legal and scientific constraints within which APHIS developed its current system of reviewing permit applications.

■ Issues associated with environmental biotechnology were the main thrust of the 2nd International Congress and Exhibition on Environmental Information and Communication (ECO-INFORMA-92), September 14-18 at the University of Bayreuth, Germany. Presentations by U.S. and European delegates focused on research, regulatory, and information programs. Rudolph Casper released the proceedings of a conference held earlier this year in Goslar, Germany (see "New Publications").

NEW PUBLICATIONS

■ Molecular Mechanisms of Insecticide Resistance: Diversity Among Insects. Edited by C. A. Mullin and J. G. Scott. Published by the American Chemical Society. September 1992. To order call 1-800-ACS-5558.

■ "The Biosafety Results of Field Tests of Genetically Modified Plants and Microorganisms." Proceedings of the "Second

International Symposium on the Biosafety Results of Field Tests of Genetically Modified Plants and Microorganisms" that was held in Goslar, Germany, May 11-14, 1992. A limited number of single copies are available, free of charge, from either OAB (703-235-4419) or APHIS/BBEP (301-436-7601).

■ "Ecological Effects of Genetically Modified Organisms", edited by Jaap Weverling and Piet Schenkelaars. Published by the Netherlands Ecological Society, Drenthesingel 11, 6835 HG Arnhem, NL.

UPCOMING MEETINGS

Oct. 12-14: IBEX '92. "Academia and Industry: Defining the Future of Biotechnology." San Francisco, CA. Sponsored by the International Biotechnology Scientific Association. Call 415-508-0118; Fax: 415-595-4864.

Oct. 13: "Conflict Resolution: Ethical Issues for Biotechnology." Washington, DC. Sponsored by the Washington Metropolitan Chapter of the Association of Biotechnology Companies. Call Richard Okuiye at 202-234-3330.

Oct. 15: Meeting of ABRAC's Working Group on Aquatic Biotechnology and Environmental Safety. 170 Hubert H. Humphrey Center, 301 19th Avenue South, University of Minnesota, Minneapolis, MN, from 9 a.m. to 4 p.m. The public is invited. Call Maryln Cordle, USDA/OAB, for more details.

Oct. 19: "New Developments in the Utilization of Genetic Engineering." Gaithersburg, MD. Sponsored by the National Capital Area Tissue Culture Society, Inc. For details call James Saunders at 301-504-7477.

Oct. 19-20: Biological Control: Use of Living Organisms in the Management of Invertebrates, Pathogens, and Weeds. London, UK. Call 071-235-3681; Fax: 071-823-1698.

Oct. 19-21: Fifth International Symposium: Biotechnology and Plant Protection. College Park, MD. Co-sponsored by the Maryland Biotechnology Institute, the Maryland Agricultural Experiment Station, USDA, and Monsanto Company. The meeting will emphasize recent research developments in plant viral pathogenesis and disease resistance. Call 301-405-1582 or 301-504-7338.

Oct. 24-Nov. 2: Essential Computational Genomics for Molecular Biologists. Cold Spring Harbor, NY. Call 516-387-8397; Fax: 516-367-8839.

Oct. 25-28: 35th American Biological Safety Conference. San Francisco, CA. Write to Jack Jaugstetter, Genentech Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080.

Oct. 26: Second Annual Biocatalysis and Bioprocessing Conference. Iowa City, IA. Call 319-335-8764.

Nov. 9-11: Plant Genome I. San Diego, CA. Call 212-643-1750; Fax: 212-643-1758.

Nov. 9-11: Recombinant DNA Methodology. Columbia, MD. Contact Exon-Intron at 301-730-3984; Fax: 301-730-3983.

Nov. 9-11: 6th Annual Bioprocess Engineering Symposium. Anaheim, CA. Call 212-705-7740; Fax: 212-705-7141.

Nov. 10-12: First Asia-Pacific Conference on Plant Physiology. Kuala Lumpur, Malaysia. Call 603-755-5466; Fax: 603-756-6343; Telex: MA 39845.

Nov. 30-Dec. 2: "Potential Ecological and Nontarget Effects of Transgenic Plant Gene Products on Agriculture, Silviculture, and Natural Ecosystems. College Park, MD. This symposium is organized by the Center for Public Issues in Biotechnology of the Maryland Biotechnology Institute. It is co-sponsored by the U.S. Environmental Protection Agency, AgCanada, and the Joyce Foundation. Contact Maury Levin at 301-405-1056 or Ms. Chris Aggour at 301-405-1268; Fax: 301-405-9091.

Dec. 14-16: Workshop on Control of Gene Expression in Yeast. Madrid, Spain. Call 34-1-435-4240; Fax: 34-1-576-3420.

Jan. 17-22: The 1993 Miami Bio/Technology Winter Symposium: Advances in Gene Technology: Protein Engineering and Beyond. Miami, FL. Call 1-800-642-4363; Fax: 305-324-5665.

Jan. 24-27: BIOEAST '93. Washington, DC. Call 301-762-2957.

Jan. 31-Feb. 5: Recombinant DNA Technology II. Palm Coast, FL. Write to C. V. Freiman, Director, Engineering Foundation, 345 East 47th St., New York, NY 10017.

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Biotechnology Notes is written by Marti Asner, public affairs specialist in USDA's Office of Agricultural Biotechnology. Story ideas are always appreciated and may be sent to USDA/OAB, Room 1001, Rosslyn Plaza East, 14th and Independence Ave., S.W., Washington, DC 20250-2200. Phone: 703-235-4419; Fax: 703-235-4429.